

School of Economics and Finance

ECON 407 ECONOMIC DYNAMICS (15 Points)

Trimester 2 2006

COURSE OUTLINE

Contact Details Jacek Krawczyk, RH325, phone 463-5352 (lecturer)
contact by email preferred at: Jacek.Krawczyk@vuw.ac.nz

Lecture times Tuesday 1240-1430 (RWW 314)

Course Objectives

The intention of the course is to provide the mathematical framework for models of dynamic conflicts (or *dynamic games*) and for their resolution.

The emphasis is not on mathematical proofs but on providing examples of economic application. However, the nature of analytical solutions will be shown.

Course Content

The following topics will be discussed:

- Non-dominance versus non-improvability.
- Fundamental concepts of classical game theory (revision: Nash and Stackelberg equilibrium concepts zero and non-zero sum games, matrix and infinite games).
- Dynamic programming (revision).
- Intertemporal conflict models (advertising, price setting and fishery's management).
- Information patterns (open-loop, memory, etc) and the associated strategies.
- Various types of equilibrium in dynamic games (open loop, feedback Nash, collusive).
- Growth rates divergences resulting from collusive equilibria.
- Stochastic games and solutions.

- Disturbance attenuation and pursuit-evasion models and “robust” solutions to dynamic games.
- A numerical method for the solution of constrained static and open-loop dynamic games.

Expected Workload

As per VUW rules, total workload is 150 hours for a 15 pt course. Hence, as a guideline, students should expect to spend approximately 12 hours per week (over 13 weeks) on this course including class contact time. This may however vary considerably for individual students.

Readings

Lecture Notes:

Krawczyk, J.B. Conflicts Over Time: An Introduction to Dynamic Games. VUW, 2006, (about \$20).

Recommended readings:

Basar T. & G.-J. Olsder. Dynamic Noncooperative Game Theory

Kennedy J. O. S. Dynamic Programming. Applications to Agriculture and Natural Resources

Fudenberg D. & J. Tyrole. Game Theory

Luenberger, D. G. Introduction to Dynamic Systems: Theory, Models and Applications, (1979) NY: John Wiley and Sons.

Sethi, S. P. & Thompson, G. L. Optimal control theory : applications to management science, (1981) Kluwer Boston.

Materials and Equipment

Students will be allowed to use electronic non-programmable calculators in exams.

Assessment Requirements

Marks will be allocated for the assignments and exam as follows:

ASSESSMENT	DATE	MARK
Assignment 1	Week 6	14 marks
Assignment 2	Week 11	16 marks
Exam		70 marks
Total		100 marks

Penalties

Late submission of assignments will not be acceptable.

Mandatory course requirements

For passing the course, obtaining an overall pass mark (C or better) is needed.

Communication of additional information

Additional information or information on changes will be conveyed to students through Blackboard and email. Students must have a valid SCS email account.

Faculty of Commerce and Administration Offices

Railway West Wing (RWW) - FCA Student and Academic Services Office

The Faculty's Student and Academic Services Office is located on the ground and first floors of the Railway West Wing. The ground floor counter is the first point of contact for general enquiries and FCA forms. Student Administration Advisers are available to discuss course status and give further advice about FCA qualifications. To check for opening hours call the Student and Academic Services Office on (04) 463 5376.

Easterfield (EA) - FCA/Education/Law Kelburn Office

The Kelburn Campus Office for the Faculties of Commerce and Administration, Education and Law is situated in the Easterfield Building - it includes the ground floor reception desk (EA005) and offices 125a to 131 (Level 1). The office is available for the following:

- Duty tutors for student contact and advice.
- Information concerning administrative and academic matters.
- Forms for FCA Student and Academic Services (e.g. application for academic transcripts, requests for degree audit, COP requests).
- Examinations-related information during the examination period.

To check for opening hours call the Student and Academic Services Office on (04) 463 5376.

General University Policies and Statutes

Students should familiarise themselves with the University's policies and statutes, particularly the Assessment Statute, the Personal Courses of Study Statute, the Statute on Student Conduct and any statutes relating to the particular qualifications being studied; see the Victoria University Calendar available in hard copy or under 'About Victoria' on the VUW home page at <http://www.vuw.ac.nz/>.

Student and Staff Conduct

The Statute on Student Conduct together with the Policy on Staff Conduct ensure that members of the University community are able to work, learn, study and participate in the academic and social aspects of the University's life in an atmosphere of safety and respect. The Statute on Student Conduct contains information on what conduct is prohibited and what steps are to be taken if there is a complaint. For information about complaint procedures under the Statute on Student Conduct, contact the Facilitator and Disputes Advisor or refer to the statute on the VUW policy website at:

<http://www.vuw.ac.nz/policy/StudentConduct>.

The policy on Staff Conduct can be found on the VUW website at:

<http://www.vuw.ac.nz/policy/StaffConduct>.

Academic Grievances

If you have any academic problems with your course you should talk to the tutor or lecturer concerned; class representatives may be able to help you in this. If you are not

satisfied with the result of that meeting, see the Head of School or the relevant Associate Dean; VUWSA Education Coordinators are available to assist in this process. If, after trying the above channels, you are still unsatisfied, formal grievance procedures can be invoked. These are set out in the Academic Grievances Policy which is published on the VUW website at: <http://www.vuw.ac.nz/policy/AcademicGrievances>.

Academic Integrity and Plagiarism

Academic integrity is about honesty – put simply it means **no cheating**. All members of the University community are responsible for upholding academic integrity, which means staff and students are expected to behave honestly, fairly and with respect for others at all times.

Plagiarism is a form of cheating which undermines academic integrity. The University defines plagiarism as follows:

The presentation of the work of another person or other persons as if it were one's own, whether intended or not. This includes published or unpublished work, material on the Internet and the work of other student or staff.

It is still plagiarism even if you re-structure the material or present it in your own style or words.

Note: It is however, perfectly acceptable to include the work of others as long as that is acknowledged by appropriate referencing.

Plagiarism is prohibited at Victoria and is not worth the risk. Any enrolled student found guilty of plagiarism will be subject to disciplinary procedures under the Statute on Student Conduct and may be penalised severely. Consequences of being found guilty of plagiarism can include:

- an oral or written warning
- cancellation of your mark for an assessment or a fail grade for the course
- suspension from the course or the University.

Find out more about plagiarism, and how to avoid it, on the University's website at: <http://www.vuw.ac.nz/home/studying/plagiarism.html>.

Students with Impairments

The University has a policy of reasonable accommodation of the needs of students with disabilities. The policy aims to give students with disabilities the same opportunity as other students to demonstrate their abilities. If you have a disability, impairment or chronic medical condition (temporary, permanent or recurring) that may impact on your ability to participate, learn and/or achieve in lectures and tutorials or in meeting the course requirements, please contact the Course Coordinator as early in the course as possible. Alternatively you may wish to approach a Student Adviser from Disability Support Services (DSS) to discuss your individual needs and the available options and support on a confidential basis. DSS are located on Level 1, Robert Stout Building, telephone (04) 463 6070, email disability@vuw.ac.nz. The name of your School's Disability Liaison Person is in the relevant prospectus or can be obtained from the School Office or DSS.

Student Support

Staff at Victoria want students to have positive learning experiences at the University. Each Faculty has a designated staff member who can either help you directly if your academic progress is causing you concern, or quickly put you in contact with someone who can. Assistance for specific groups is also available from the Kaiwawao Māori, Manaaki Pihipihinga or Victoria International.

In addition, the Student Services Group (email student-services@vuw.ac.nz) is available to provide a variety of support and services. Find out more at http://www.vuw.ac.nz/st_services/

VUWSA employs Education Coordinators who deal with academic problems and provide support, advice and advocacy services, as well as organising class representatives and Faculty delegates. The Education Office (tel. (04) 463 6983 or (04) 463 6984, email education@vuwsa.org.nz) is located on the ground floor, Student Union Building.

Manaaki Pihipihinga - Māori and Pacific Mentoring Programme (Faculty of Commerce and Administration)

This is a mentoring service for Māori and Pacific students studying at all levels. Weekly one hour sessions are held at the Kelburn and Pipitea Campuses in the Mentoring Rooms, 14 Kelburn Parade, and Room 210 and 211, Level 2, Railway West Wing. Sessions cover drafting and discussing assignments, essay writing, and any questions that may arise from tutorials and/or lectures. A computer suite networked to Cyber Commons is available for student use.

To register with Manaaki Pihipihinga, please contact one of the following:

Puawai Wereta
Room 210, Level 2
Railway West Wing
Tel. (04) 463 8997
Email: Puawai.Wereta@vuw.ac.nz

Fa'afai Seiuli
Room 109 B
14 Kelburn Parade
Tel. (04) 463 5842
Email: Faafoi.Seiuli@vuw.ac.nz